REMARKS

Information Disclosure Statement

The Examiner stated that a copy of the reference "User interface technologies for home appliances and network" by Corcoran et al. was not submitted with the information disclosure statement filed on October 20, 2000. However, this reference was cited by the previous Examiner in the parent application. Nonetheless, a copy of the PTO-892 (PTO-1449) and the Corcoran et al. reference are enclosed.

Election/Restrictions

Applicant affirms the election of group I, claims 22 to 44.

Specification

The Abstract complies with the requirements stated by the Examiner.

§ 103(a) Rejections

The Examiner rejected claims 22 to 44 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Nos. 5,995,120 ("Dye") and 6,118,462 ("Margulis").

Addressing claim 22, the Examiner found that Dye discloses every element of claim 22 except for the two separate and distinct controllers, which the Examiner found to be obvious in view of Margulis. Applicant respectfully traverses.

Dye discloses a computer having a graphic controller that assembles a display refresh list for updating the screen. Specifically, the display refresh list includes pointers to the data of the windows/objects stored in the system memory. The graphic controller dynamically adjusts the display refresh list for movement of windows/objects and relative depth priorities of the windows/objects. Thus, to affect screen changes, the central processing unit (CPU) does not have to move the data of the windows in and out of the frame buffer (i.e., minimizes bus transfers). Instead, the graphic controller updates the pointers in the display refresh list. See Dye, col. 2, line 50 to col. 6, line 34.

Dye does not disclose a "GUI controller" having (1) a "memory" that stores a document for defining the appearance of the GUI, and (2) a "GUI processor" that handles the GUI according to the document. Claim 22 recites,

> [I]n response to the first and the second opcodes [in the document], the GUI processor executes the first set of executable codes to render the first GUI object to the frame buffer, to communicate with the embedded processor to receive the status from the embedded processor, and to further render the first GUI object to the frame buffer in response to the status;
>
> in response to the third and the fourth opcodes [in the document], the GUI processor executes the second set of executable codes to render the second GUI object to the frame buffer, to receive the command from the touch screen, to render the second GUI object again to the frame buffer to show a visual response to the command, and to send the command to the embedded processor;
>
> ....

Claim 22 (emphasis added). Thus, the GUI processor executes the codes to draw the GUI objects and interact with the user.

The Examiner cited the graphic controller (also referred to as the "IMC") of Dye as the GUI processor. However, it is the central processing unit (CPU) in Dye that executes the codes to draw the windows/objects and interact with the user. The Examiner seems to have concurred and wrote, "set of executable code (executable by the CPU) for rendering the display (see column 3, line 61 through column 4, line 7)." The cited lines state,

> Video screen changes or screen updates are preferably performed using the following operations. First, in response to software executing on the host CPU, such as applications software, the video driver executing on the CPU generates a video driver instruction list which includes screen update and/or graphics information for displaying video data on the screen. The video driver instruction list is provided to the Execution Engine in the graphics controller or IMC. The Execution Engine examines the video driver instruction list and generates a list of graphics and/or memory commands to the Graphics Engine. Thus the Execution Engine constructs a complete list of graphics or memory operations to be performed in response to desired screen change information.

Dye, col. 3, line 61 to col. 4, line 7. Thus, while the graphic controller in Dye improves the screen update process by the use of a display refresh list, the graphic controller does not free the CPU from drawing the windows/objects and interacting with the user.

Dye does not disclose a "GUI object library" that stores codes defining the appearance and the functionality of GUI objects. Claim 22 recites,

> [A] GUI object library storing:
>
> > a first set of executable codes for rendering the first GUI object, receiving the status from the embedded processor, and further rendering the first GUI object to show a visual response to the status;
> >
> > a second set of executable codes for rendering the second GUI object, receiving the command from the touch screen, further rendering the second GUI object to show a visual response to the command, and sending the command to the embedded processor;
>
> ....

Claim 22. The Examiner cited col. 21, lines 27 to 36 of Dye as disclosing the GUI object library. The cited lines state,

> FIG. 7A illustrates operation of the software drivers which interface to the IMC 140. Essentially, each application requires a different set of constraints, such as whether the application is a 2-D or a 3-D application, the number of bits per pixel, the area in which the window works, and the capabilities of the subsystem. Based on the requirements of the application, the drivers make calls to supplemental libraries, such as 3-D protocols, compression and/or decompression libraries, and possibly a window assembly library, among others, to perform desired operations.

Dye, col. 21, lines 27 to 36. In view of above, Dye appears to disclose that software drivers can call supplemental libraries to assist in the rendering of the windows/objects. However, Dye does not disclose that these supplemental libraries actually define the appearance and the functionality of the GUI objects.

As described in the specification and the numerous references lauding the present invention, the major benefit of the claimed invention is that the customer does not need to program their embedded processor to handle the GUI (i.e., program the CPU to draw the GUI and interact with the user). Instead, the GUI controller is provided to handle the GUI. The GUI controller is easily programmed with a HTML document that defines the GUI with the GUI objects in the GUI library. The HTML document is compiled and then stored in the GUI controller for execution. The customer can readily change the HTML document to modify the GUI. Dye simply does not disclose an analogous system because it addresses a different problem of how to minimize bus

transfers when the screen is updated. In short, Dye discloses a graphics accelerator for a PC that does not accept human input directly and does not make any decisions to modify the graphics based upon the human input. Margulis does not cure the deficiencies of Dye as cited against claim 22. Accordingly, claim 22 is patentable over the combination of Dye and Margulis.

The Examiner rejected claim 23 for the similar reasons as claim 22. Claim 23 recites similar limitations as claim 22, including a GUI controller having (1) a memory that stores (a) a document defining the GUI and (b) a GUI object library, and (2) a GUI processor that handles the GUI according to the document and the GUI object library. Thus, claim 23 is patentable over Dye and Margulis for at least the same reasons as claim 22.

Claims 24 to 34 depend from claim 23 and are patentable over the cited references for at least the same reasons as claim 23.

The Examiner rejected claim 35 for the similar reasons as claim 22. Claim 35 recites similar limitations as claim 22, including a GUI processor that reads a document defining the GUI and executes codes in a GUI object library in response to the document to draw the GUI objects and interact with the user. Thus, claim 35 is patentable over Dye and Margulis for at least the same reasons as claim 22.

Claims 36 to 44 depend from claim 35 and are patentable over the cited references for at least the same reasons as claim 35.

Applicant respectfully requests the allowance of claims 22 to 44. Should the Examiner have any questions, the Examiner is invited to call the undersigned at (408) 382-0480.

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I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature 1/5/2005 Date

Respectfully submitted,

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